

CIRM  
Intellectual Property Task Force  
Subcommittee  
*Testimony – 27 April 2006*

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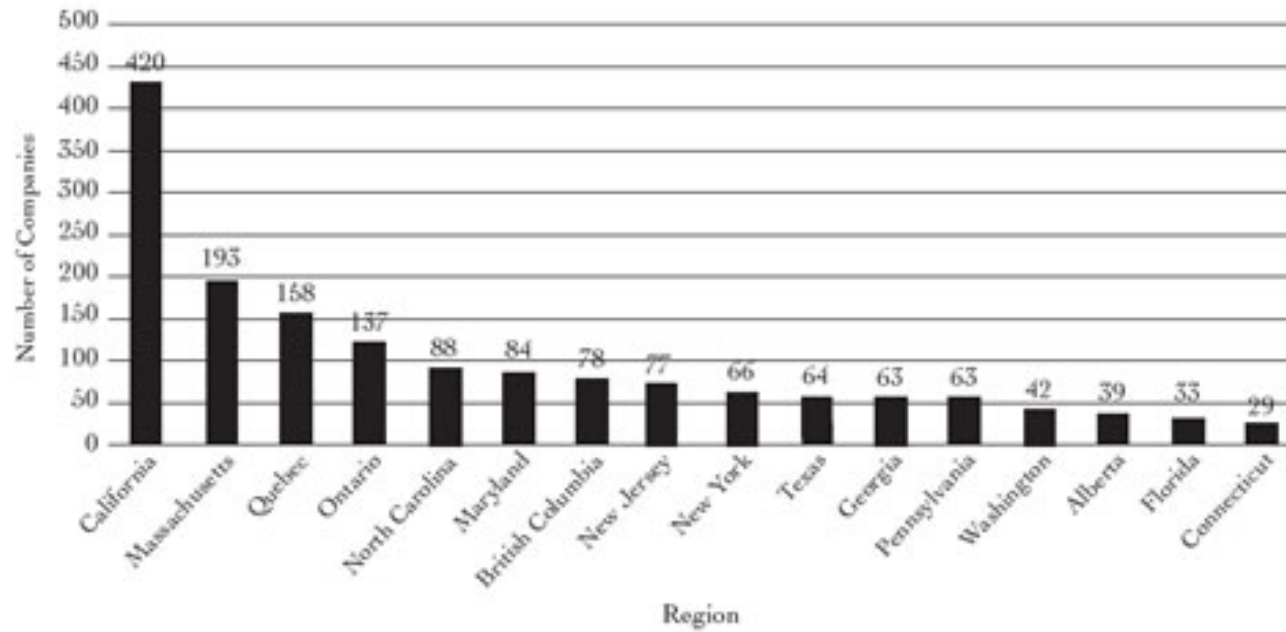
# CHI Background

- 260 members statewide
- Academic research institutions (UC, CSU, Stanford, Salk, Caltech et al.
- Commercial life sciences companies
  - Biotech
  - Medical devices/diagnostics
  - Bioinformatics/research tools

# California: Global Leader in Biotechnology

- Biotech industry originated in California
- In 2006: 40 percent of total US biotech jobs
- World's premier network of academic institutions
- Highly-evolved infrastructure

### North American Biotech Companies by State and Province



# Cluster Development

- Strong science base
- Entrepreneurial culture
- Growing company base
- Ability to attract talent
- Infrastructure
- Sources of risk capital
- Large companies in related industries
- Skilled workforce
- Effective networking
- Supportive policy environment

# What Makes Clusters Most Productive?

- Network interactivity
- Competition
- Velocity of technology transfer:  
commercialization of academic science

# Why is commercialization necessary?

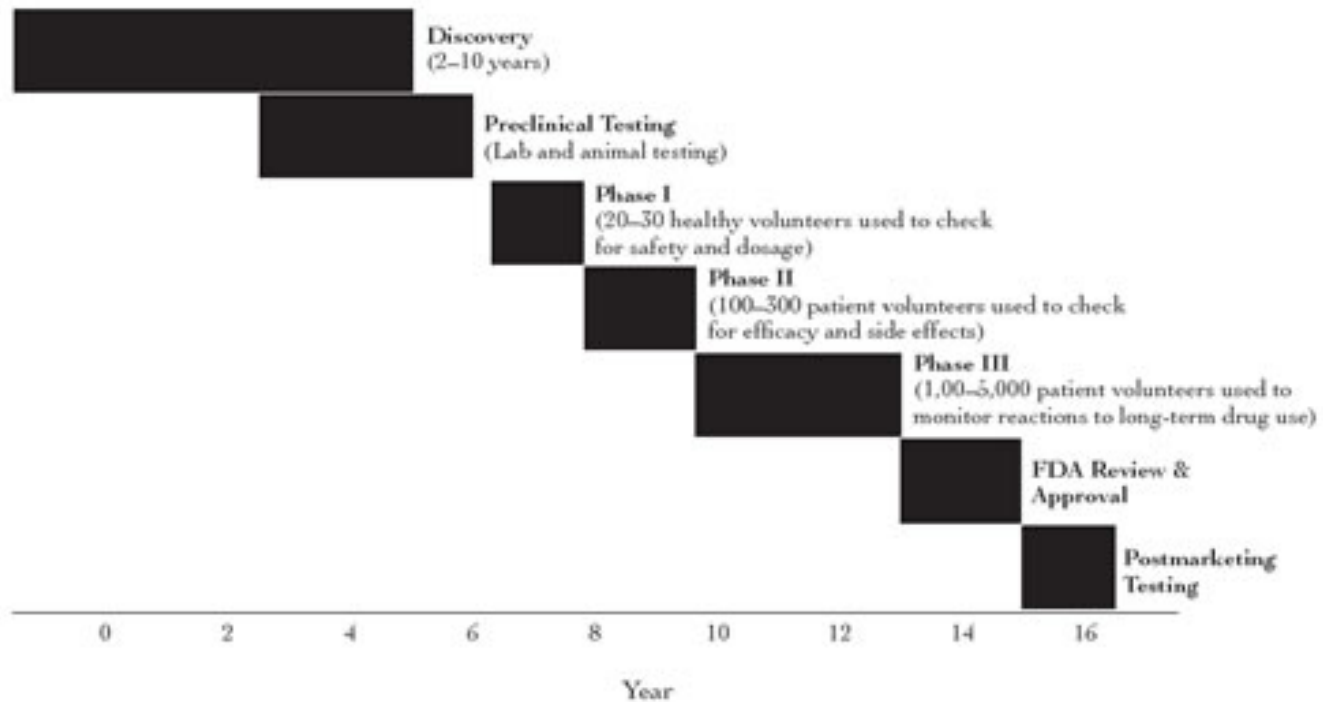
- Basic research produces understanding, not products
- Governments and academic institutions lack skills/resources to produce products:
  - Risk capital
  - Applied research and regulatory expertise
  - Manufacturing capacity
  - Marketing and distribution

# What does it take to transform a research discovery into successful drug?

- Industry critics claim that research input creates most of a product's end value
- Industry studies suggest that downstream development accounts for 90 percent of a product's value



## Biotech Drug Discovery Process



# Brain Drain from the United Kingdom

- Pre-1999 universities had two missions:
  - Teaching
  - Research excellence
- Universities retained IP rights to inventions, but little technology was commercialized
- Huge reservoir of “orphan IP”
- Top scientific talent relocated to US
- In 1999 Dept. of Trade and Industry proposed third mission: support of industry

# DARPA Mission Statement

“The Defense Advanced Research Projects Agency (DARPA) is the central research and development organization for the Department of Defense (DoD). It manages and directs selected basic and applied research and development projects for DoD, and pursues research and technology where risk and payoff are both very high and where success may provide dramatic advances for traditional military roles and missions.”

# DARPA Principles

- Private sector competition best promotes innovation
- Government funding as a catalyst in high risk-reward areas
- Benefits to taxpayers accrue from successful inventions, not a tax on inventors

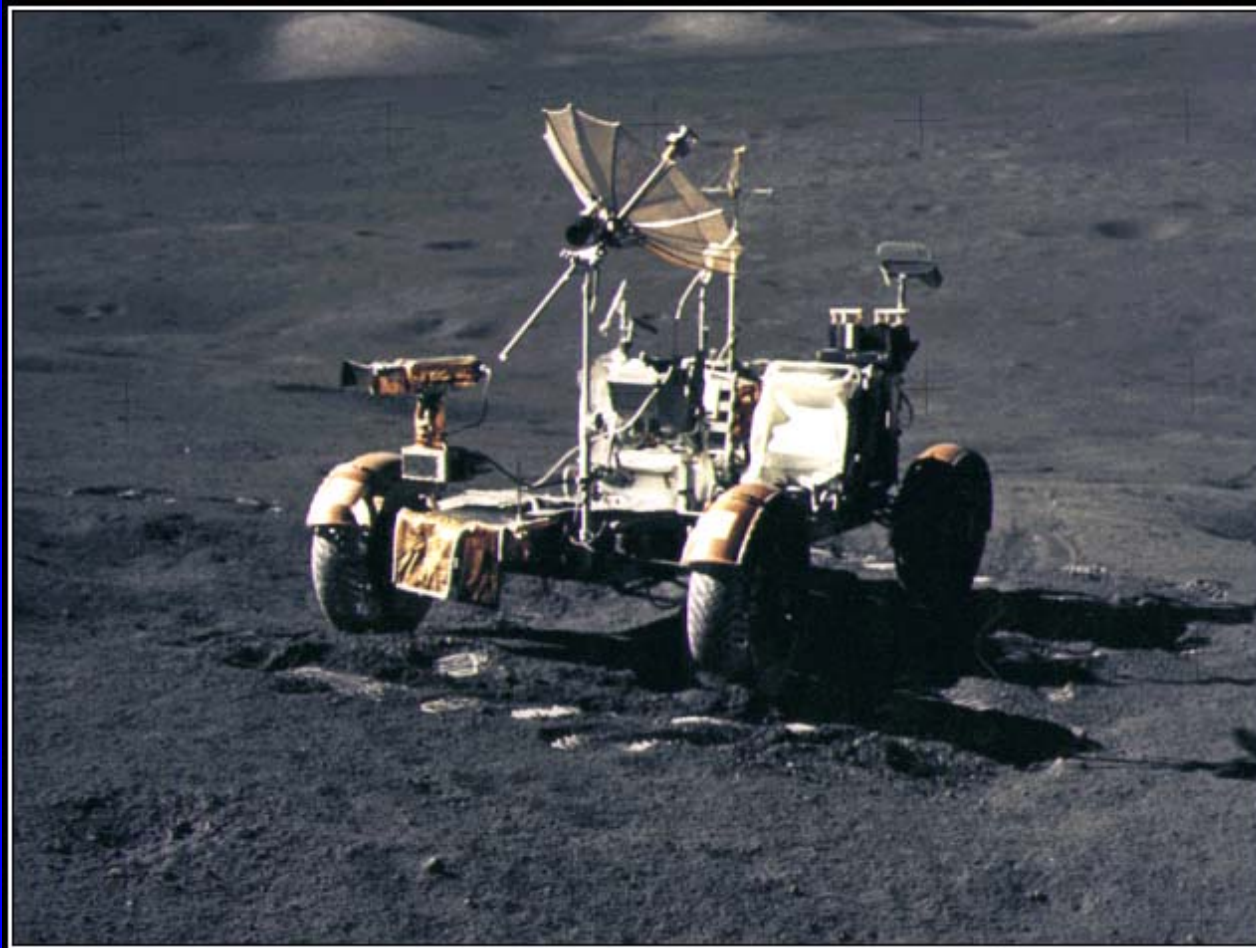
# CIRM Should Discount

- Naysayers who misrepresent the complex interrelationship of academic and commercial science;
- Any claim that stem cell science can benefit patient groups without aggressive participation of commercial companies;
- Attempts to regulate commercial transactions in ways that discourage participation of the best companies and entrepreneurs.

# Guiding Principles for CIRM Commercial IP Policy

- Maximum acceleration of best science
- Investment in important areas outside academic expertise (e.g. scale production)
- Foster the development of business models for commercial stem cell based products

# Government-funded Car





# Government-built Car





# Public-private Partnership Car

